



# Immersive Visualization On the Cheap



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# About Me





# About this Session

Some of us have been lucky enough to see the awesome potential of Virtual & Augmented Reality through high-end systems like the Microsoft HoloLens, the Oculus Rift, and the HTC Vive.

What are some affordable options for introducing this kind of immersive tech into a library on a budget?

What are some ways to integrate these tools into broader library programming?

# Why include VR & AR Programming?



- Enables diverse experiences
- Embodied, kinesthetic, interactive learning
- Connect with nature: “...creatures that will quicken the beating of your heart...”
- Telepresence at real-time events
- It’s fun!

# Lessons Learned



- Different VR systems provide very different experiences
- Everyone experiences VR differently; some groups of people tend to enjoy it more than others
- It's time to integrate VR into other programs rather than as a standalone technology
- Accessibility is a big problem that hasn't been solved
- Are there mechanisms in place to pool resources at a local level?

# TRY IT!

*Applications and technology that can augment existing programs*

1. Google Cardboard and the Mars Rover\*
2. Google Expeditions with National Geographic\*
3. Mid-range VR: Scuba dive with the Samsung Gear
4. From Recording to Immersion with the 360 fly\*
5. AR part I: Quiver Masks and iPads
6. AR part II: Images in Motion with HP Reveal



*\* Requires you to download an app on your phone*

# Google Cardboard and the Mars Rover

**What technology is this?** A Google Cardboard headset manufactured by Topmmaxions (retails for ~\$12) that is compatible with all cell phones.



**How does it work?** Install the Google Cardboard app on your phone to pair it with one of the cardboard viewers, follow the instructions on your phone & headset to insert your phone.

It's a good idea to compare the quality of your VR experience in the cardboard app with some of the 360 videos on YouTube. To view YouTube videos in the cardboard, search for 360 videos and then click on the VR icon in the lower right-hand corner of the video. Search for "NASA Mars 360" to see recent uploads.

# Google Expeditions with National Geographic

**What technology is this?** A Google Cardboard headset manufactured by Topmmaxions (retails for ~\$12) that is compatible with all cell phones.



**How does it work?** Install the Google Expeditions app on your phone. Follow the instructions on your phone & headset to insert your phone.

There are many applications to view with Google expeditions, a search for "national geographic" will allow you launch some high quality scenes.

While you are wearing the cardboard, control where the pointer is by adjusting your gaze. Use the gold button on top of the cardboard viewer to select the pointers and other options superimposed on your scene.

## Mid-range VR: Scuba dive with the Samsung Gear

**What technology is this?** A Samsung Gear VR headset (retails for \$40-\$100) working with a late model Samsung headphone that has the Oculus application installed. With this technology you experience a more streamlined and sophisticated phone/headset interface than you do with the Google Cardboard



**How does it work?** While you're wearing the headset:

- Control where the pointer is focused by adjusting your gaze.
- Tap the large square area on the right side of the headset to select items.
- Use the “back” and “home” buttons above the large square area to navigate.
- Navigate to the “Library” to launch Ocean Rift (scuba diving) or view 360 videos on *Within*.

## From Recording to Immersion with the 360 fly

**What technology is this?** A 360-degree camera (various Fly models retail from \$84-\$400) with a full 360-degree range in 2 dimensions and a vertical range of about 240 degrees



**How does it work?** Install the 360 fly application on your phone. Follow the setup instructions to pair your device to the camera on Bluetooth.

Once the app is open, in “live” mode, you can record a short by pressing the big button in the bottom center of the screen. Once the video has been recorded, press the goggle icon from the player screen (see arrow) to view the video in Google Cardboard.

